REMARKS

Claims 1-37 are pending. Claims 1-30 have been withdrawn from consideration. Claim 31 has been amended.

Claim Objections

Claims 31-37 are objected to under 37 CFR 1.75(c) as being in improper form because they depend on claims which have been withdrawn from consideration as being directed to a non-elected invention. The Examiner stated that claims 31-37 have not been further treated on the merits.

The enclosed amendment corrects the claim form and should remove this objection.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Allowance of the pending claims, as amended, at an early date is solicited.

Respectfully submitted,

21 May 2003
Date

By: Dean M. Harts
Dean M. Harts, Reg. No.: 47,634
Telephone No.: (651) 737-2325

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833

DMH/spg
55525US011 AMEND 1

Version with markings to show amendments made:

In the Specification

On page 13, please amend the paragraph including lines 3-13 as follows:

This [precentage] percentage of embedding can be increased to about 100%, as shown in Figure 1B, by further pre-heating the web 12, which results in further softening of the web 12. Since the tackiness of the web typically increases as the softness of the material increases, above a certain temperature the web can stick to the nip rollers 36 which may cause damage to the web 12. To overcome this limitation, a nip liner 37B can optionally be disposed over the heated web 12 between the nip roller 36 and the particle surface 12A of the web 12. The nip liner 37B allows the temperature of the web 12 to be increased up to a temperature where the polymer forming the web is more amenable to flow. The nip liner 37B prevents the material forming the web 12 from adhering to the nip rollers 36 while still allowing the particles to be fully embedded. After the nip rollers 36, the web 12 passes around a drive roller 38 (if the nip rollers 36 are not driven) and to a windup roller 40 at a windup station, such as with an air-clutched winder. Alternatively, the web 12 can optionally pass over a stainless steel pacer roll.

Please amend the paragraph beginning on page 21 line 21 and ending on page 22 line 6 as follows:

One embodiment of the feedback loop 149 utilizes the optical extinction of a laser beam across the plume of dispensed particles as the monitoring device as illustrated schematically in Figure 10. The collimated line beam (~4" wide and about 2 mm thick) of the laser follows a path 150 from a source 152 to a detector 154 (e.g. a diode laser and a photodetector). The radiation (i.e., light) passes through a first [Fresenel] Fresnel lens 156, and through both back and front particle plumes 159 (those due to both the screen/brush and brush/wire interactions). The forward scattered light is collected by a second [Fresenel] Fresnel lens 158 and is measured with the detector (e.g. a photodetector). A calculation device 160 such as an electronic feedback circuit as described in The Art of Electronics (Horowitz and Hill. New York: Cambridge University Press, 2nd ed., 1989), or a PLC or computer can be utilized to calculate the rate of particle dispersement from the measured light intensity. The calculation device can then be used to regulate the rotational speed of the motor 64 by outputting a voltage that is proportional to the

difference between a reference level and the measured instantaneous light intensity. By introducing a slight delay in responding to the variation of the light intensity, the dispensing rate can be stabilized. The forward scattered light intensity as a function of the dispense rate shows a nearly linear behavior in the limited range of interest in the dispense rates, even though strictly speaking, it varies exponentially with the dispense rate.

In the Claims

31. (First Amendment) A web comprising [the] embedded particles formed by [the method of claim 17] a method for dispensing particles onto a surface comprising:

holding the particles in a hopper having an opening;

dispensing a screen over the opening;

passing bristles of a brush across the screen;

drawing the particles through the screen with the brush; and

dispersing the particles into the air such that they settle onto the surface.